



## ecology and environment, inc.

Global Environmental Specialists

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### MEMORANDUM

DATE: June 30, 2015

TO: Eric Nuchims, Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-4 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, John Day Vapor Response Site,  
John Day, Oregon**

REF: TDD: 15-05-0005 PAN: 1004530.0004.111.02

The data quality assurance review of 6 water samples collected from the John Day Vapor Response site in John Day, Oregon, has been completed. Diesel range organics analysis (Ecology Method NWTPH-Dx) was performed by TestAmerica, Inc., Tacoma, Washington. All sample analyses were evaluated following EPA's Stage 2B and/or 4 Data Validation Electronic and/or Manual Process (S2B/4VE/M).

The samples were numbered:

15053114	15053115	15053601	15053602	15053603
15053604				

#### Data Qualifications:

**1. Sample Holding Times: Acceptable.**

The samples were maintained at  $< 6^{\circ}\text{C}$ . The samples were collected on June 1, 2015, extracted on June 4, 2015, and analyzed on June 8, 2015, therefore meeting QC criteria of less than 7 days between collection and extraction for water samples and less than 40 days between extraction and analysis.

**2. Initial Calibration: Acceptable.**

Calculations were verified as correct. All relative percent differences (RPDs) were within the laboratory control limits.

**3. Continuing Calibration: Acceptable.**

Calculations were verified as correct. All percent differences (%Ds) were within the laboratory control limits.

**4. Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

**6. System Monitoring Compounds (SMC): Acceptable.**

All recoveries of the SMCs were greater than 10% and within QC criteria.

**7. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**8. Blank Spikes: Acceptable.**

Blank spike results were within QC limits.

**9. Duplicates: Acceptable.**

Spike duplicate results were acceptable.

**10. Quantitation and Quantitation Limits: Acceptable.**

Sample concentrations were correctly calculated.

**11. Laboratory Contact: Not Required.**

No laboratory contact was required.

**12. Overall Assessment of Data for Use**

Samples 15053114 and 15053601 contained hydrocarbon patterns in the diesel range; however, the elution patterns were earlier (sample 15053114) or later (sample 15053601) than the typical diesel fuel pattern used by the laboratory for quantitative purposes. No actions were taken based on this information.

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004) and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- JH - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a high bias.
- JL - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a low bias.
- JK - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias.
- JQ - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias and falls between the MDL and the Minimum (or Practical) Quantitation Limit (MQL, PQL).
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50404-1

Client Sample ID: 15053114

Lab Sample ID: 580-50404-1

Client Matrix: Water

Date Sampled: 06/01/2015 1053

Date Received: 06/03/2015 0925

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method: NWTPH-Dx	Analysis Batch: 580-191498	Instrument ID: SEA012
Prep Method: 3510C	Prep Batch: 580-191177	Lab File ID: 009F0801.D
Dilution: 1.0		Initial Weight/Volume: 1013.1 mL
Analysis Date: 06/08/2015 1200		Final Weight/Volume: 1 mL
Prep Date: 06/04/2015 0949		Injection Volume: 1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.90	<i>Xm</i>	0.014	0.11
Motor Oil (>C24-C36)	0.060	<i>JQ</i>	0.0097	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	75		50 - 150

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50404-1

Client Sample ID: 15053115

Lab Sample ID: 580-50404-2

Client Matrix: Water

Date Sampled: 06/01/2015 1626

Date Received: 06/03/2015 0925

### NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191498	Instrument ID:	SEA012
Prep Method:	3510C	Prep Batch:	580-191177	Lab File ID:	010F0901.D
Dilution:	1.0			Initial Weight/Volume:	1044.7 mL
Analysis Date:	06/08/2015 1216			Final Weight/Volume:	1 mL
Prep Date:	06/04/2015 0949			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.018	JG	0.014	0.11
Motor Oil (>C24-C36)	0.025	JG	0.0094	0.24

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	53		50 - 150

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*6-30-15*

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50404-1

Client Sample ID: 15053601

Lab Sample ID: 580-50404-8

Date Sampled: 06/01/2015 1410

Client Matrix: Water

Date Received: 06/03/2015 0925

### NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191498	Instrument ID:	SEA012
Prep Method:	3510C	Prep Batch:	580-191177	Lab File ID:	011F1001.D
Dilution:	1.0			Initial Weight/Volume:	1049.6 mL
Analysis Date:	06/08/2015 1232			Final Weight/Volume:	1 mL
Prep Date:	06/04/2015 0949			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.80	Y	0.014	0.10
Motor Oil (>C24-C36)	1.6	Y	0.0093	0.24

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	77		50 - 150

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50404-1

Client Sample ID: 15053602

Lab Sample ID: 580-50404-9

Client Matrix: Water

Date Sampled: 06/01/2015 1600

Date Received: 06/03/2015 0925

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method: NWTPH-Dx	Analysis Batch: 580-191498	Instrument ID: SEA012
Prep Method: 3510C	Prep Batch: 580-191177	Lab File ID: 012F1101.D
Dilution: 1.0		Initial Weight/Volume: 1014.2 mL
Analysis Date: 06/08/2015 1248		Final Weight/Volume: 1 mL
Prep Date: 06/04/2015 0949		Injection Volume: 1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.022	JG	0.014	0.11
Motor Oil (>C24-C36)	0.015	JG	0.0097	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	64		50 - 150

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 6/22/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50404-1

Client Sample ID: 15053603

Lab Sample ID: 580-50404-10

Client Matrix: Water

Date Sampled: 06/01/2015 1650

Date Received: 06/03/2015 0925

### NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191498	Instrument ID:	SEA012
Prep Method:	3510C	Prep Batch:	580-191177	Lab File ID:	013F2201.D
Dilution:	1.0			Initial Weight/Volume:	1007.6 mL
Analysis Date:	06/08/2015 1546			Final Weight/Volume:	1 mL
Prep Date:	06/04/2015 0949			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.093	JG	0.014	0.11
Motor Oil (>C24-C36)	0.014	JG	0.0097	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	51		50 - 150

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50404-1

Client Sample ID: 15053604

Lab Sample ID: 580-50404-11

Date Sampled: 06/01/2015 1810

Client Matrix: Water

Date Received: 06/03/2015 0925

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method: NWTPH-Dx	Analysis Batch: 580-191498	Instrument ID: SEA012
Prep Method: 3510C	Prep Batch: 580-191177	Lab File ID: 014F1301.D
Dilution: 1.0		Initial Weight/Volume: 978.7 mL
Analysis Date: 06/08/2015 1320		Final Weight/Volume: 1 mL
Prep Date: 06/04/2015 0949		Injection Volume: 1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.015	JG	0.015	0.11
Motor Oil (>C24-C36)	0.012	JG	0.010	0.26

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	52		50 - 150

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